Electricity on the Farm

A Monthly Magazine for the Progressive Rural Family

MAY 1932

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GOOD EQUIPMENT

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Electricity on the Farm

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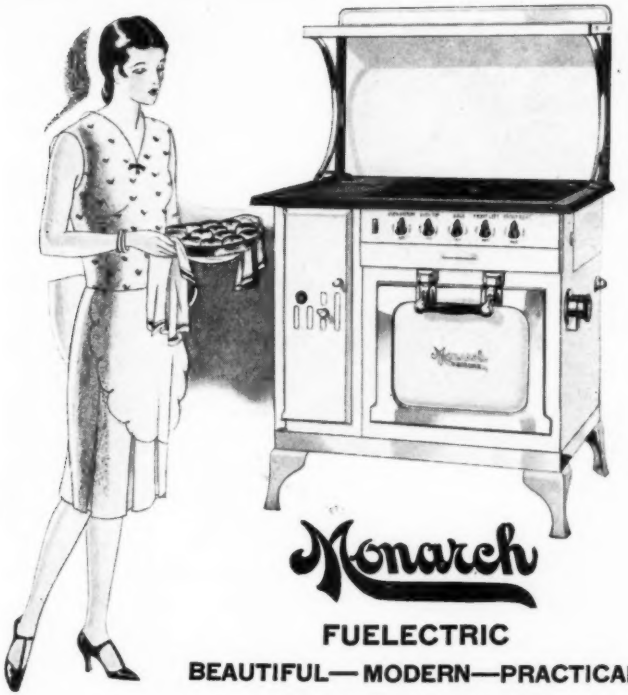

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"Though apple trees may be bedecked in May,
Warm Summer's lease hath all too short a stay."

BETTER FOOD — BETTER HEALTH

It is not until these warmer days begin to roll around that the full value of mechanical refrigeration on the farm is appreciated.

Natural ice used to be considered a luxury around farms, except in the dairy where its use was imperative. Nowadays it's a different story. Probably due to increased use of mechanical refrigeration in restaurants and refreshment places in cities, as well as in dairy farms, modern farm housewives have become familiar with and are demanding dependable refrigeration.

It is a happy condition that electrical refrigeration, whether for household or dairy use, pays for itself. In the case of the household equipment, there is less food wasted, and perishable foods may be cooked and stored in the refrigerator so that a lot of the work incidental to getting the meals is eliminated. Better preservation of food, in addition, means better health.

In the dairy, the use of mechanical refrigeration is on a different plane. Here it is practically obligatory if high grade milk is to be produced. In fact, in some states milk regulations are so severe that the farmer without mechanical dairy refrigeration finds it very difficult to produce milk of the highest rating. It is significant, too, that dairy equipment and methods are rapidly being revolutionized by the advent of electrical refrigeration. Surface cooling of milk has not sustained the growth in popularity it experienced a few years back.

Under these conditions it is not surprising that those farms having central station electric service available are quick to adopt, and enthusiastic in praising, the value of electrical refrigeration. While it represents but one of the many advancements which follow the extension of power lines, it will remain as one of the most highly prized.

MILK COOLING

By E. R. MEACHAM

Refrigerating apparatus mounted on milk cooling tank in use on a farm in New York State.

WHAT is the future of market milk production? Who will fill the nation's milk bottle? State laws, city ordinances, and the rules of health departments are constantly raising standards of quality that can only be met when milk is artificially cooled. For many markets it is no longer a question of whether cooling will pay. The producer must cool his milk or find some other outlet for it.

Will this business pass entirely into the hands of the big dairy companies milking hundreds or even thousands of cows? The question facing hundreds of farmers with average size herds is whether they can adopt the same modern methods and retain this profitable market for their milk.

A dry cooler with an aerator in use on a farm producing about 1,200 pounds daily.

Only the other day, I had a caller with a milk cooling problem to solve. I did not see her come in, but when I looked up from my work, she was standing right beside my desk.

"Somebody left the door open, so I walked right in," she said in a clear young voice. "My name is Hazel Patterson and I wanted to ask you——."

"If it's about a job, you'll have to see Mr. Baker," I interrupted her with perhaps more haste than courtesy. "But I ought to warn you that we are trying to economize and are hiring very few people."

She laughed pleasantly. "I have a job,—a plenty big one, thank you. But I want a lot of information and even some advice about it. I hope you're not economizing on that, too," she added, taking the chair I had tardily pulled forward.

Advice being as cheap as it is, there hasn't been much market for it lately. In fact, the supply almost always exceeds the demand. During this depression, particularly, there has been a lot of advice offered that was entirely uncalled

for. Perhaps one of our troubles is that everybody is giving advice and nobody is taking any of it.

This extraordinary young person who was actually asking advice was a wholesome looking girl probably in the early twenties, with serious brown eyes and an air of having no nonsense about her.

"I'm going to stay at home and help Dad farm for a few years," she announced. "So I want to know all about cooling milk and keeping it cold by machinery. I never did understand how a machine can produce cold, but I know that it does, so I am willing to leave all that to the men who design and build the machines. I want you to tell me what kind to buy and how to use it."

Choice of Equipment

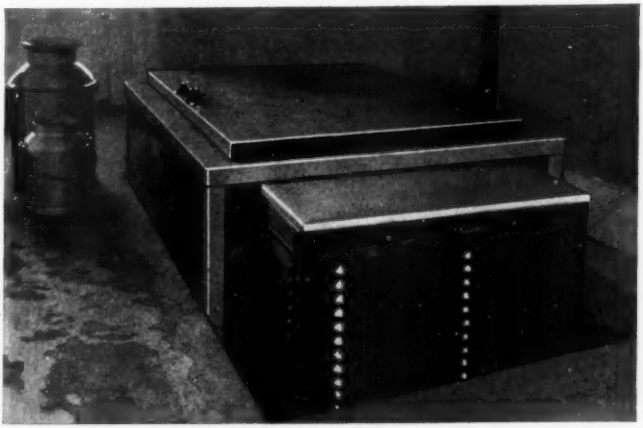
"That will depend on how you want to handle your milk and on how much time you have for cooling it before delivery. Suppose you tell me just what your conditions are."

"Well, we milk 20 cows," she began. "We sell to a big dairy company. Their truck picks up our milk in 10 gallon cans at the farm every morning. But they are getting more and more particular about quality and especially about cooling the milk under fifty immediately after milking.

"We have tried filling one of these big cone-shaped aerators with ice and water and pouring the milk over that. And, of course, we keep the evening's milk over night in a tank of cold water. But we aren't satisfied. I think I'm pretty husky for a girl but I can't wrastle 2 or 3 hundred pounds of ice out of the ice house every day. We haven't got the ice for that matter. The winter was so mild that we couldn't fill our ice house. So if we do use ice, we'll have to buy made ice anyhow."

Tank Is Best

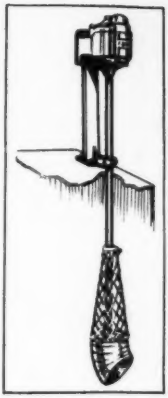
"For cooling and storing milk in cans," I told her, "a tank is better than a cold storage room or box. Air doesn't take the heat out of the cans nearly as fast as water does. If the tank you now use is right size and well enough insulated it should work all right with a mechanical cooler. But the chances are it would be better to buy a good insulated tank already made.



A tank type cooler, wet system. Depressed tank makes a low lift for cans.

"If you do put in a new one, be sure to place it where it will be most convenient to use. If that is also the coolest location, so much the better, for heat from the sun, or the boiler or hot water tank will add to the cost of operation. But don't forget that if the tank is in an unhandy location that will add to the labor cost, too. Electric current is cheaper than muscle so put your tank where it will save the most carrying of cans. Placed on top of the milk house floor an insulated tank will stand fully three feet high. That's a high lift of ten gallon cans of milk. So dig a pit and sink the tank until the edge is only about a foot above the floor."

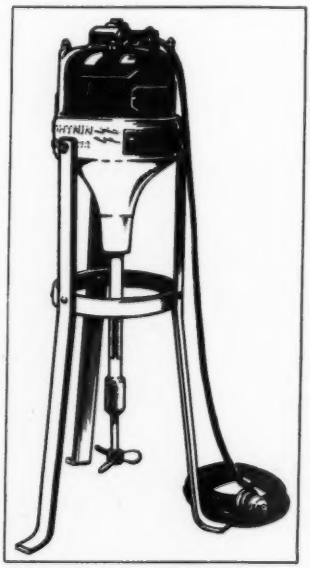
One thing to remember in buying equipment for a tank is that the cooling surface in contact with the water should be as large and well distributed as possible. The tank should be designed so it will hold from 3.5 to 5 gallons of water for each gallon of milk cooled and stored.



Agitator for mounting on tank.

"Would we run our milk over our big aerating cone before we put it in the tank?" asked Miss Patterson.

"No, that shouldn't be necessary if you have plenty of time to cool it. There has been a lot of difference of opinion about the purpose and value of aerators. It is now pretty generally believed that their main value is for rapid cooling, so you certainly don't need one for the nights' milk. You can put those cans of warm milk, covers on tight, right into the cooling tank and they will be in perfect condition next morning. Then you can set them out to make room for the morning's milk. They won't warm up very fast if they stand in a cool place."



A portable agitator for stirring cooling water.

"But how cold can we get that morning's milk before the truck comes?" insisted Miss Patterson.

"At the Pennsylvania Experiment Station in a tank that held about five times as much water as milk, and with the water at 33°-36° F. they cooled their cans to 50° in an hour and a half," I answered.

"I suppose we could get our milking done an hour and a half before the truck comes but I know we don't always. Would stirring the milk hurry it any?"

"It would be a good deal better to stir the water. There's no chance of contaminating the milk that way, and you can rig up a motor to do it while you go about your other chores. Besides, it is lots more effective. In those tests

at Pennsylvania, the milk cooled to 50° in stirred water about twice as fast as it did in still water. Instead of an hour and a half it it took 45 minutes with water at 33°, and 52 minutes with water at 36°."

"I believe that will just about fill the bill. I'll tell Dad all about it, and much obliged," she said.

With that she left.

How the Small Dairyman Handles the Problem

The thousands of small dairymen who bottle their own milk and sell it locally once a day have a similar problem but they must solve it in a different way. Julius Krebs is one of these dairymen, selling in Sun Prairie the milk from a small herd of Guernseys. He knew it was impractical to store bottled milk in a tank so he built a cold storage room in his milk house. He put 4 inches of mineral wool and 4 layers of celotex besides boards and building paper in the walls and ceiling and laid thick cork board in the concrete floor.

But he also knew that it would take a long time to cool his bottles in air, so he installed a tubular cooler to use before bottling. He has a shallow well that gives him plenty of cold water, and a good water system to pump it. By pumping while he cools the milk after each milking he runs water right from the well through the cooler tubes and gets his milk quite cold. He bottles it immediately and sets the cases in the storage room. All that his mechanical equipment needs to do is to keep this space cold. To do this he installed an air cooled compressor driven through V-belt by a ½ H.P. motor. The outfit is rated at 1/3 of a ton which means that it provides as much refrigeration as 1/3 ton of ice every 24 hours. In other words, it will pump 4,000 B.t.u. of heat out of the storage room every hour. Mr. Krebs put

Cooling equipment and storage room in a Massachusetts dairy.

it on a concrete base just outside the milk house where it has a good circulation of air but is protected from the hot sun.

From the compressor, copper pipes extend to the expansion coils in the storage room. There the refrigerant expands and takes up heat from the surrounding air. To make this possible the expansion coil is equipped with scores of metal fins to present as much absorbing surface as possible. These fins are all set vertically to allow the air to circulate freely among them. Mr. Krebs saved space in his cold room by hanging this expansion coil a few inches from the ceiling. This also puts it in the warmest place in the room where it has the best chance to draw out heat.

Above: To save space in the milk house, Mr. Krebs installed this motor, compressor, radiator and refrigerator tank outside on a concrete block. He later put a shelter over it.

Left: This coil near the ceiling cools Mr. Krebs' milk room by direct expansion.

A thermostat controls the operation of the cooler, starting the motor whenever the temperature inside the cold room rises above a certain degree and stopping it when it has again lowered the temperature enough.

Experience Required

Determining the specifications of the cooling tank or storage room and of the equipment to keep it cold is an engineering problem. To solve it to the customer's best advantage the refrigeration salesman or the power company man

Below: This is Julius Krebs' neat tile milk house.

must know how much milk is to be cooled, how quickly the job must be done, and how long the milk must be stored. He must also know whether there is enough cold water to precool the milk or whether he must provide a brine tank to do it. When he has considered these points, he can give a pretty good idea of the operation costs.

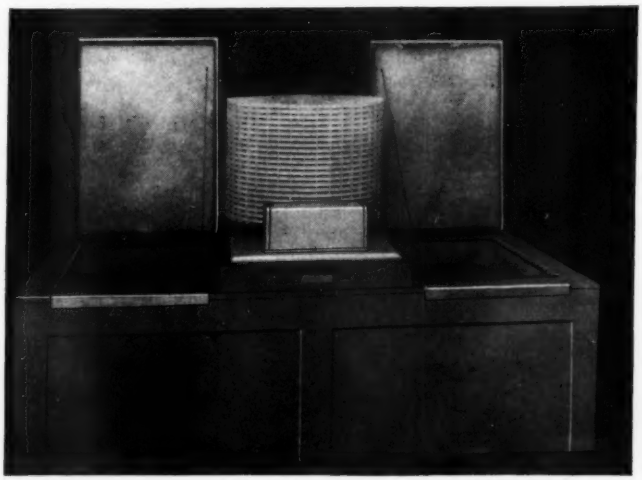
Current Consumption

From California, Ben D. Moses reports that by the brine system it takes about 1 kw. hr. for 8 gallons of milk cooled and stored in 10-gallon cans. If cooled and and stored in bottles it takes 1 kw. hr. for 6 gallons of milk. If the milk is not stored, 1 kw. hr. will cool 11 gallons of milk. By the direct expansion system 1 kw. hr. will cool 20 gallons of milk.

F. E. Price and his associates at Oregon Agricultural College found that I kw. hr. would cool 100 pounds of milk under fifty in a tank.

Cannot Save by Eliminating Spray

Growers sometimes try to cut corners in times of poor prices for their fruit, but one cannot save dollars by not spraying according to H. R. Niswonger, North Carolina, extension horticulturist. During periods of poor prices quality fruit will move faster than fruit of lower grade. Cutting out even one or two of the sprays therefore may have the opposite effect from what was expected. The cash outlay has averaged about $3.00 an acre for apples and $1.50 for peaches, 1931 production records show. The apple orchards in which these records were kept varied from seven to 30 acres with about 50 trees to the acre and five to seven spray applications were made. The peach orchards varied in size from five to 12 acres each and there were four to five applications of spray materials. Spraying is one of the most important orchard operations, concludes Professor Niswonger.



"We are very much pleased with our cooler," said R. G. Howes, a farmer up in Massachusetts. "It is not only economical to operate, but saves us a great deal of time which we can use to real advantage on other work."

HOT WATER
for the farm

By HARRY R. O'BRIEN

ONE day last winter I stood in the kitchen of a rural home in central Ohio and looked at my watch. The time was exactly four o'clock. I put my watch back in my pocket and asked the good farm wife if I might wash my hands at the kitchen sink. This was a queer request, because my hands weren't a bit dirty. But I was doing a little detective work and I needed an excuse to try that sink.

She was willing, so I stepped to the faucet over the sink and turned the handle marked hot. Out came the water, so hot that I could barely put my hands in it. I had discovered what I wanted to know. I went on, however, and washed my hands.

That water had been heated by electricity. A little while before I had seen in the basement the queer looking water heater that looked more like a giant thermos bottle than anything else. Another queer thing about it, too, was that on the top was an imported Swiss electric clock.

This water had not only been heated by electricity but it had been heated the night before. The clock had automatically turned on the current around 9 o'clock in the evening and had cut it off about 7 that morning. At four in the afternoon it was still almost too hot for my hands. This was why I had looked at my watch. This family has hot water every hour of the day.

This particular rural home happened to be one of a number in which an Ohio power company is trying out the heating of water by electricity for household use by means of an insulated storage-type of heater. By doing the heating at an off-peak time, that is, when most other users are off the line and the power plant is running at reduced capacity, the company has been giving an off-peak low rate for the first 100 KWH a month and a still lower rate per KWH above that.

According to figures given to the 1929 rural service men's conference, held at Ohio State University, city and suburban customers under this plan were getting their hot water heated by electricity at a cost that averaged 88 cents a person a month and on the farms the cost was averaging 71 cents.

At the 1930 Ohio rural service men's conference, figures were presented from another division of this same power company, which showed that on five farms where the offpeak heating with a storage type of tank was in operation, the cost of hot water for each person in the family averaged 60 cents, 75 cents, 85 cents, $1.00 and $2.53.

THEN
Those were the happy days . . . but look back and figure out for yourself how you had to fuss around waiting for the kettle of water to boil before you could take a bath . . . and then not enough hot water to make your bath enjoyable . . . but .
NOW
How times have changed. With an automatic electric water heater, you simply turn the switch and have piping hot water aplenty in just a few minutes for the bath, shaving, washing dishes, clothes, and hundreds of other uses.

For reasons unknown this latter family used more than twice as much water as anyone else.

These figures interested me when I heard them—as did the hot water I saw in that kitchen—because I live in the country on a rural power line but heat water with an oil heater. While we use all the hot water we want, we do not run the heater continuously but save whenever we can.

For our family of two adults and two small children it costs from $5 to $6 a month for hot water in summer, when the furnace coil is not functioning. And think of the bother of seeing that the oil truck stops, of filling the heater tank, of keeping the wicks cleaned and of fire danger. As to the latter, we have had four fires—luckily all found in time—since we have built this house four years ago. I have an automatic fire extinguisher over the heater, and keep a hand extinguisher in the kitchen and one near my bed.

One hundred and twenty gallon electric off-peak water heater in residence of M. N. Sanders, Springfield, Ohio.

So personally, we are ready any minute to heat our water with electricity and are waiting until such time as our local power company is ready to offer us a plan.

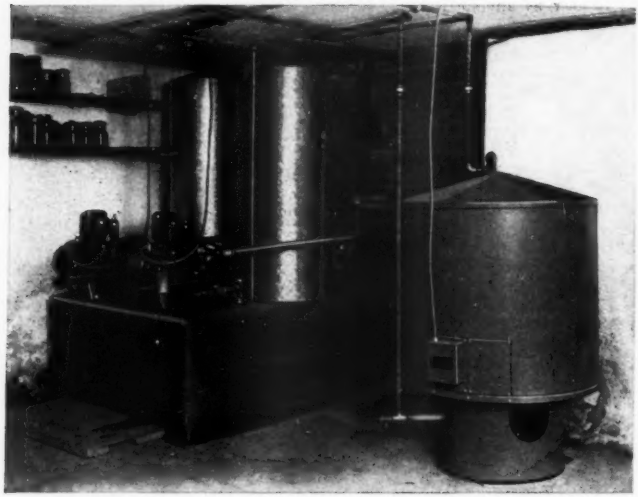
From a broader standpoint, this heating of water on the farm by electricity is, I believe, one of the biggest jobs ahead for the rural lines. This is an opinion arrived at after considerable travel and investigation extending over a good many states.

It is, of course, not something that will be generally adopted over night, for there are too many new wrinkles that need be ironed out.

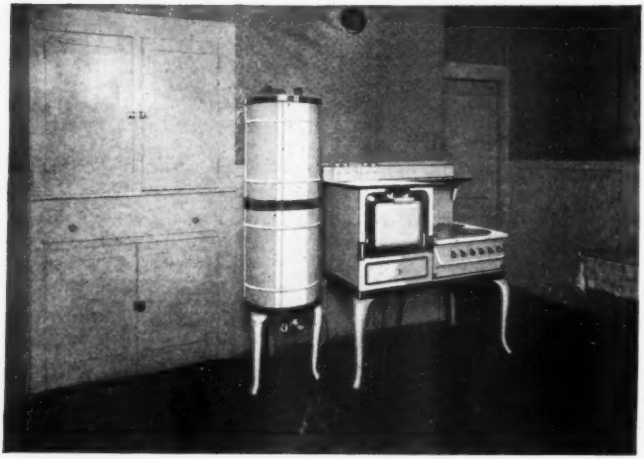
The first and greatest use is in the farm home for kitchen, bathroom and laundry. There is no question but that hot water is needed by the housewife and more in the country than in the city home. The tasks of the farm home manager are more numerous and often on a much larger scale than those of the city housekeeper. No one will dispute this who understands about cooking for threshing crews, butchering day, home laundering, canning fruit, dressing poultry for market and so on.

Various types of heaters are now available for this purpose. Some of these are of such type that by turning on a high wattage heating unit, water can be heated in a short time. Others use a low wattage unit for heating over a longer period of time but have a heavily insulated tank that preserves the heat over a long period. Rural service men of an Idaho power comany developed recently a type of heater suitable for use in farm homes that do not have a pressure water system and this is now on the market commercially.

The place where electric water heaters are finding a more general



Sixty-five gallon electric off-peak water heater in residence of Elmer E. Sultzbaugh, R. D. 4, New Carlisle, Ohio.



Electric range and water heater on the Charles Crouch farm, Roanoke, Texas.

acceptance on the farm, however, is in the milk room at the dairy farm. Once or twice a day hot water is needed here every day in the year for washing utensils and equipment. Within the past year I have seen electrical water heating equipment on farms from Minnesota to New York and had I traveled that far I might have seen it from coast to coast.

This equipment has varied. I have been on farms producing certified milk with low bacterial count where large amounts of water are heated on an off-peak load plan. More often I have seen various types of small heaters in use where just a few gallons are used daily.

Near Cortland, New York, on the farm of Morris Korupp, I saw about a year ago an immersion heating unit installed in a 6-gallon garbage can that was heating four gallons of water in 55 minutes for 3½ cents of current. This heater was devised by men of the local power company. The original one worked so well that a local tinner made up some in a more handy form than the original. At the time I was there some 50 of these had been sold by the rural service man of the power company (W. W. Jurden of the Cortland Traction Company.)

Warming Drinking Water

Another use that is growing rapidly is heating the drinking water for poultry and livestock. The story of how this is being done and the benefits in increased egg or milk production is doubtless familiar to readers of this magazine. I saw it on any number of farms and listened to poultrymen and dairymen tell of how advantageous it is to heat water for this purpose by electricity.

Thus in various ways the heating of water by electricity is beginning to make headway on farms over the country. It is a new chore for the rural power line, as yet barely visioned by even the most far seeing. But we might just as well be giving it more and more consideration.

There are a good many angles that need to be investigated further and worked out jointly by farmers, power company men and manufacturers of appliances, with independent investigation on the part of agricultural college engineers. Just the kind of equipment needed for farm uses, the type of rate that will be satisfactory to both power company and farmer consumer and whether or not the off-peak heating is the most practicable—these are some of these angles.

In fact these investigations are already under way and in due time solutions will undoubtedly be found for all of them.

Our March Cover

The artist who touched up our March cover is no farm mechanic, as the plentiful supply of sparks from the emery wheel going in the wrong direction would indicate. Incidentally, his work also made sparks fly in the rural electrification field, judging from the number of red hot letters received from some of the leaders in this field.

B. B. Robb, Professor Agricultural Engineering, New York State College of Agriculture, Cornell University, was the first to point out the mistake; right on top of his letter came one from W. C. Krueger, Extension Agricultural Engineer of the New Jersey State Agricultural College at New Brunswick. And then G. C. Westfall of the Tennessee Electric Power Company and S. Hester of Dania, Fla., came through with a little advice for the man who sent the sparks upward and held the sickle bar in reversed position. Mistakes are bad, but then it's hard to find the combination of a good artist, a farmer and a mechanic in one man.

"Did you hear about Smith making a million dollars in cotton?"

"Yes, I heard about it, but you've got the story wrong; it wasn't Smith. it was Jones—it wasn't cotton, it was copper—it wasn't a million dollars, it was a hundred thousand, and he didn't make it—he lost it."

ELECTRICAL HOUSEKEEPING

Conducted by
GAIL MEREDITH

So You're Buying a Refrigerator

GETTING our money's worth is a matter for serious consideration. We all want to, even in tiny purchases, and it becomes even more important when we go out to buy a refrigerator, particularly an electric refrigerator. That is why shopping is always a serious business for us women.

A salesman told me not long ago that there are more than twenty different makes of mechanical refrigerators to choose from today. Unless you live near a very large city indeed, and are willing to take weeks on end for your shopping, you cannot expect to see all that there are. But that need not prevent your shopping intelligently just the same. You can learn, before you start, what to look for and what to avoid in a good refrigerator.

It is no matter of guess work.

A sturdy, attractive box.

In the laboratories at various colleges and homemaking centers, men and women have been testing, studying and experimenting with these new refrigerators ever since the laboratories of the manufacturers sent them forth. The Bureau of Home Economics and the Bureau of Standards at Washington have taken a hand in your problem.

They tell you to buy a box sound in construction with a finish that is durable and easily cared for, and with at least two inches of insulation in the walls.

Quality First

To get these things you begin with the manufacturer. You want honest workmanship, efficient machinery and good materials in the box you buy. You cannot afford to have anyone skimp on it, for you are going to depend on that box to deliver in your kitchen the constant, dry cold that keeps your food safe. You know that you are no judge of whether the motor is well built or the compressor reliable, but you know, too, if you stop to think about it, that a good manufacturer, and an experienced manufacturer, will make them so. He is every bit as anxious as you are to have his refrigerator give you good service. As long as it does, you are both gainers; when it does not, you both lose.

You buy a car from a company you know something about, a car like one your neighbor drives perhaps, or like one you have admired as it flashes past your house week after week.

Refrigerators are no good for roadwork, but their reputation travels abroad.

You can ask the woman who uses one what she thinks of it.

When it comes to the box itself, the construction, the finish, the in-

sulation, the convenience of its shelf arrangement, and finally its size, all will have their bearing on your selection.

Most refrigerators today are made with a steel or wood framework, and with steel walls instead of wood. Sheet steel is not affected by heat or cold, dryness or moisture. Boxes made of steel are much like a safe, and quite as strong and rigid in their construction.

The hardware, too, on a good box is heavy and substantial. One day when I was examining a new refrigerator, the salesman, a man who must have weighed 180 or 185 pounds, jumped up and swung on the door to show me how solid it was. Those hinges would never let that door sag. The latch must do its part, too, and hold the door firmly in place, but it must work easily. You often go there with your hands full, and you want a light touch to open the door, and a shove of your elbow to close it when you turn away.

The finish of the box is such an important consideration, that most manufacturers have adopted one of two materials that have proved satisfactory; a lacquer enamel,—often put on by some patented process under a special trade name, and porcelain. The first may need refinishing in the course of the years, the second will not, but it is subject to accident. A sharp blow may chip off bits of the porcelain. This cannot be repaired except by the substitution of a new panel.

Cleanliness is exemplified by the modern box.

Courtesy Bureau of Home Economics

One of the strongest reasons for good refrigeration.

The Inside Finish

You may have a violent preference one way or the other for one of these finishes for the outside of your box, but there can scarcely be two opinions about the finish for the inside. The lining should always be of porcelain all welded together in one piece so there are no cracks or crevices where dirt may lodge, and so that the whole inside can be washed out like a dish.

Insulation Important

All of these things you can see for yourself if you poke about long enough on the sales floors where refrigerators stand. But one of the most important parts of any refrigerator, following close in importance indeed, after the cooling mechanism, is something you cannot see with what my young niece calls "your skin eyes." That is the insulation.

The difference between good and poor insulation makes all the dif-

ference between economical and wasteful use of current for cooling.

Two Inches of Insulation

The United States Bureau of Standards has decided that for the most economical and efficient operation a mechanical refrigerator should have at least two inches of insulation. Many refrigerators have two and a half, three, and even three and a half inches of insulation in their walls. The insulating material differs. Corkboards and granulated cork, balsom wool, and some of the pressed fiber boards made from cane, or the corn products, Professor Sweeney has developed in his laboratory of wizardry at Ames—all these are in common use.

To reinforce its insulation a good refrigerator puts a soft rubber gasket around the edge of the door. This helps shut out more warm air.

All of the refrigerators have automatic control that maintain a constant temperature within the box. Some of them are adjustable so you can lower the temperature for a time when you want to freeze ice cubes or a dessert in a hurry.

Dual Control

Some boxes have more than one control. The one keeps an even temperature in the storage chamber, and another changes the temperature in the freezing compartment so ice cubes will freeze very quickly. There is one box that automatically maintains four varying temperatures in different places in the box.

In addition to these general characteristics that are important to any one planning to buy a

My neighbor had her refrigerator set right next the drain board of her sink.

HOW G-E MILK COOLERS *safeguard profit*

GENERAL Electric Milk Coolers end permanently the inefficient and unreliable method of depending on the weather for milk refrigeration.

In a General Electric Cooler milk is cooled quickly, easily and economically. Bacteria count is held to the very minimum. Grade A prices are assured. Profits are safeguarded the year around. The same General Electric mechanism that established for the G-E Refrigerator a record of attention-free, dependable performance in over a million homes insures permanent satisfaction with General Electric Milk Coolers.

This efficient mechanism is sealed-in-steel—requires no attention—not even oiling!

To further safeguard your profits every General Electric Milk Cooler is guaranteed against all service expense for three years.

Ask your nearest dealer how easily you may own a General Electric Milk Cooler, or write to the General Electric Co., Electric Refrigeration Department, Section CZ5, Hanna Building, 1400 Euclid Avenue, Cleveland, Ohio.

Join the G-E Circle. A special program for women every week day at noon (except Saturday). On Sunday at 5:30 P. M. a program for the whole family. (Eastern Standard Time). N.B.C. coast to coast network.

GENERAL ELECTRIC

MILK COOLERS

Domestic, Apartment House and Commercial Refrigerators, Electric Water Coolers

mechanical refrigerator, each of you who goes forth to shop has problems of your own that must have answering.

The size to buy is determined by two things; the space you have for it in your kitchen, and the number in your family. You can measure the first, but there is no yardstick that will tell you as definitely about the second.

One institute that tests household equipment says that ordinarily a five cubic foot box is adequate for a family of two or three; a seven cubic foot box for a family of four or five; and a nine cubic foot box for a family of six or eight.

But numbers are not always the only basis for deciding on the proper sized box for your kitchen. You may want to keep a shot gun can of cream in your refrigerator; perhaps you like to store meat in it at butchering time; perhaps there are very young or very old people in your household who need special cooking,—and whose delicate foods need extra care. All of these must be considered when you are deciding on size.

The shelf arrangement has considerable bearing on the convenience of the box, too. The shelves must be far enough apart so you can use the space on them easily. If you are going to have the flat topped refrigerator dishes that help you store your food compactly and neatly, you want to make sure that there is space between the racks for the dishes to go in and out.

The racks themselves must be strong enough to keep the shelves firm. They must let the dishes slide smoothly, and they must be easy to wash and clean.

Before you finally decide, you will be wise to give a thought to the dealer. He is nearer home than the manufacturer, and next in importance for you to consider. He and his service men are the folks who are going to keep that refrigerator delivering food preservation in your kitchen year in and year out with as little interruption as possible. If they are not efficient, and prompt and willing, the finest machine on earth may not give you complete satisfaction. For machines are still machines and will need tinkering now and again.

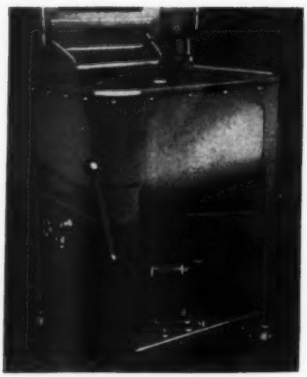
If the dealer is a man well established in your locality, and if you know from experience, or by reliable inquiry throughout the neighborhood that his word is to be depended upon, you have the best assurance of satisfaction that you can get.

• • •

Nebraska Studies Washing Machines

"IF you are going to buy a washing machine," suggests Miss Edna Snyder of the Department of Home Economics at the University of Nebraska, "you want it to meet several quite definite requirements."

And she sums them up like this: It must remove dirt thoroughly and quickly. It must give the least possible wear on the fabric. It must be convenient and safe to handle, easy to clean and made to keep the wash water hot. Last of all it must be big enough to take care of the clothing of the average family, and small enough to fit in



New washing machines do not take up much space. The legs of this machine are adjustable.

whatever space you can give it.

And Miss Snyder knows what sort of machines will do these things, too, for she and Morton P. Brunig of the Agricultural Engineering Department have been making a thorough study of washing machines just so they could answer these questions for the women of Nebraska.

I do not know how long they worked at the job, but it is reported in considerable detail in research Bulletin No. 56 of the Agricultural Experiment Station at the University of Nebraska. And the things they found out are of interest far beyond the state lines to all the places where there are women just going to buy washing machines.

These are the conclusions they reached.

The best cleaning, according to their results, was done in the cylinder and vacuum machines. The next best, and the difference was very slight, perhaps only noticeable in the exactness of scientific laboratory tests, was done in the gyrator. The least satisfactory in the dolly.

In general the samples of cloth washed in the gyrator machines reached their greatest cleanliness in less time than those washed in other machines.

Each washer, they found, seems to have one best washing period for any set of conditions. If they washed the clothes beyond this time, they were actually dirtier again.

They explain this inexplicable situation by reference to other tests in other university laboratories. Two investigators at Cornell University, busy with a study of soap came upon this same situation. They decided that when the clothes were left in the machine beyond the period they had discovered to be best, the continued agitation broke up the dirt in the soap solution into finer and finer particles that were actually adsorbed by the cloth, coating it more firmly than ever.

New Low Prices on Esco Milk Coolers

The Patented ESCO Milk Cooler that cools milk quickly to below 50 degrees and keeps it cold until shipped, can now be yours at the lowest price in the history of electric milk cooling.

Now, like thousands of ESCO owners, and for the smallest investment ever, you can protect your market and assure your profits the year 'round . . . because ESCO-cooled milk is in constant demand. Send coupon for full particulars. Ask, too, about ESCO Electric Water Heaters and ESCO Dairy Utensil Sterilizers.

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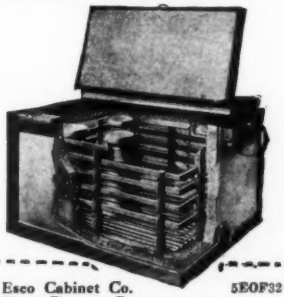
The Patented Electric Milk Cooler



Esco Cabinet Co. 5EOF32
West Chester, Pa.

I make.....cans of milk daily.
Send full particulars on:

- ☐ ESCO Milk Coolers
- ☐ ESCO Water Heater
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Name .....

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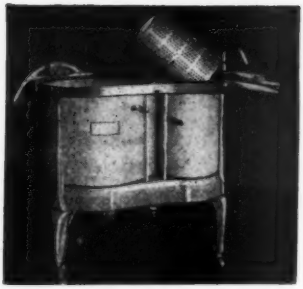
P. O..... State.....



This machine is light and easy to move about.

I have seen this happen to my own clothes when I ran the machine too long, but I had, of course, no idea why it happened.

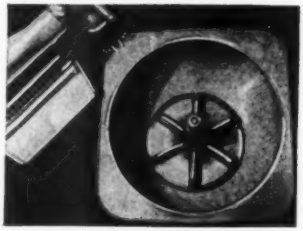
"If this theory is correct," Miss Snyder points out, "the practice of putting a whole family wash through the same water and soap solution, as is frequently done, is open to considerable objection. Clothing should be washed for two or more short washing periods with change of soap and water. . . . In general, single washing periods should not be longer than ten minutes. The purchaser is justified in expecting sufficient agitation of suds and clothing within this period to get the most value from the suds."

The water temperature that gave them the best results was 125° F. Higher temperatures, they found, tended to cook or set the dirt in the meshes of the cloth.

There seemed, too, to be one best load for each machine. Sometimes this coincided with the manufacturer's recommendations and sometimes it did not. A decreased or an increased load did not, as a rule, give as satisfactory results.

"A possible explanation for this," says Miss Snyder, "is that underloading provides too little friction between clothes and between water and clothes, and that overloading prevents adequate agitation of clothes and decreases the proportional amount of water."

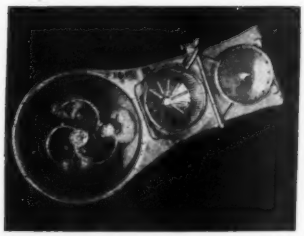
Their next consideration was the wear on the clothes. They conducted this test by trying the breaking strength of new and



The gyrator washer.

washed pieces of Indian Head muslin with a Scott textile tester. They discovered that the gyrator machines caused less wear than others, and the dolly the most. As a matter of fact, they decided, however, that the differences were of little practical significance, except in the case of one dolly that caused a good deal more wear than the rest.

When it came to deciding what sort of machine kept the water hot longest, they found very little difference. The machine with the slowest cooling had double walls and was finished inside and out with white porcelain. The one in which water cooled fastest was a cylinder machine copper plated inside and enameled outside. But the difference in heat retention they



A vacuum cup washer with a dryer attached.

decided, was far too slight to be of any importance in the selection of a washing machine. Any good machine would keep the water hot as long as the clothes should be in it anyway.

On the washers of the future, Miss Snyder wants the lids fast to the tubs; she wants the controls changed around a little to make operation more convenient; she wants somebody to do some work with wringers, so the tension between the rolls may be better regulated, and the drain boards may be better shaped. She wants all machines built with adjustable legs to fit the varying heights of women.

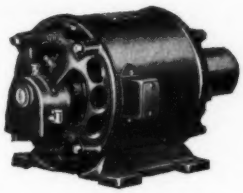
The Farm Workshop and Woodlands

Under the above title the E. C. Atkins & Company, of 415 South South Illinois Street, Indianapolis, Ind., has issued a very interesting little book of 36 pages and cover, which should prove of real value to farmers who have work shops or who are planning to equip farm shops. It also gives some helpful suggestions on how to make money out of the farm woodlot.

Some of the chapters in this book, which give an idea of its scope, include the following: How to plan a farm shop; Equipping the farm shop in the garage; How to select shop tools; Building your shop outfit, including saw horses, work benches, tool box, cabinet, etc.; How to build a wood work bench, a wall cabinet for shop tools, bench for shop metal work; How to make wood joints; Farm carpentry and repair problems; Metal work on the farm; Soldering, and Three hundred useful things the farmer can build in his shop. There is also given a list of bulletins issued by different organization and addresses where they may be secured, each one covering some part of farm repair work. Felling trees, sawing lumber and fire wood are fully outlined in the book.

Copies of the book may be secured from the Atkins Company.

"They Keep-a-Running"



¾ Horse Power Century Type RS Repulsion Start Induction Single Phase Motor

WATER!

Plenty of water, any time, day or night, the year 'round, with a Century Motor driven water supply or pumping system...Water when and where you want it—for the kitchen, bath, laundry, at the barn, for irrigation, washing the car, fire-fighting, sprinkling the lawn or garden. The motor may be automatically controlled by a float or pressure switch to keep the water at the correct level and pressure.

The built-in ability of Century Motors to "Keep-a-Running" has been proved in many hundred thousands of installations over a 28 year period.

Built in standard horse power ratings from ⅛ to 40.

CENTURY ELECTRIC CO.
1806 Pine St. St. Louis, Mo.

40 U. S. and Canadian Stock Points and More Than 75 Outside Thereof

Century MOTORS

ON THE AIR

Conducted by
JEROME J. HENRY

Radio from Moving Train

FROM a train traveling at a speed of more than a mile a minute an experimental broadcast was put on the air recently by the Columbia Broadcasting system. The program emanated from the dining car of a limited and included orchestral music by Jack Denny and his orchestra.

The signals were transmitted through a short wave station aboard the train to pick-up points along the route. From these rooms the program was sent by land wires to stations in the network.

Another unique experimental broadcast was planned by NBC to bring to the public the voices of air mail pilots who talk to their landing field crews, receive reports on weather conditions and converse on their progress.

These experimental attempts add to the already long list of unusual broadcasts. Broadcasts have been accomplished from a submarine, from the tops of skyscrapers, ocean going vessels, from foreign countries all over the globe, by lowering a microphone into the crater of an active volcano, and from many other unusual positions.

• • •

Prominent Women to Talk on Home Decoration

OUTSTANDING women leaders of the country are being

A small depot which was converted into a radio master-control room for an experimental attempt by the Columbia Broadcasting System to broadcast from a train traveling at a speed of more than a mile a minute.

presented Thursday afternoons in a series of home decoration talks over NBC stations at 4:00 p.m., Eastern time.

The schedule of speakers during May will bring before the microphone Miss Mabel Boardman, American Red Cross, May 5; Mrs. Charles W. Sewell, American Farm Bureau Federation, May 12; Mrs. Minnie Evans Keys, Order of Eastern Star, May 19· Grace Viall Gray, secretary National Canning contest, June 2.

• • •

Four Star Announcers Make Able Quartet

FOUR star announcers lifted their voices in song to celebrate Everett Mitchell's birthday, last March 15, which, incidentally, was also the last day for filing income tax returns. It was a gala day for those who help to broadcast the National Farm and Home Hour. The broadcast ended with a rooster crowing contest between Everett Mitchell, the well known

Four star announcers join in song. Left to right: Jean Paul King, Everett Mitchell, Sen Kaney, and Wallace Butterworth.

Greater Capacity

A Dorward-Red Jacket water system pumps most water for power used. The rotary principle in the power head cuts down friction, vibration and wear. No fulcrums, walking beams, crossheads or other oscillating parts. All movable parts run in oil. No noise, practically no wear, and little attention required. Capacities 200 to 10,700 gals. per hr. Noted for economical performance.

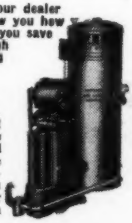
Write for Booklet No. 11

Red Jacket Mfg. Co., Davenport, Ia.

DORWARD-Red Jacket WATER SYSTEMS

NEW LOW PRICES!

Ask your dealer to show you how much you save through buying now



No cheapening of design, no lowering of quality! The same reliable MYERS Pumps and Water Systems you have always known — now offered at economy prices never before possible for products of such high quality.

MYERS Self-Oiling Water Systems

For deep or shallow wells; for operation by hand, pump jack, engine or motor. The most complete line in the world. Capacities from 250 to 10,000 gallons per hour. Latest improved models from $65.00 up. Write for booklet and dealer's name.

THE F. E. MYERS & BRO. COMPANY
357 Orange Street
Ashland, Ohio

Take Off Your Hat to MYERS

announcer, and Harry Kogen, director of the orchestra.

Radio listeners are deciding the winner by sending in their votes for the contestant who crows longest, sweetest, and loudest.

Perhaps listeners will have an opportunity to hear them again, but only on rare occasions do Sen Kaney, Wallace Butterworth, Jean Paul King, and Everett Mitchell desert their announcing duties to enter the realm of harmony.

• • •

Tinkling Cowbells Reproduced for Radio

IF you've heard cowbells ringing during evening radio programs, maybe you just gave them a casual thought, but it took hours of experimenting in securing the proper pleasing and authentic sound.

The tinkling cowbells, signature of a Monday evening NBC broadcast at 8:00 o'clock, Eastern standard time, is not an accidental combination of the musical bells. The sounds were secured by Morgan L. Eastman, orchestra conductor, who was anxious to devise the proper blend of instrumental and vocal harmony.

Show business, whence they came, provided the setting for "Myrt and Marge," who broadcast each evening over a CBS network. In real life Myrt (left) is Myrtle Vail while Marge is Donna Damerel.

A New Sheep Shearing Machine

A manufacturer of clippers recently announced a new sheep shearing machine designed for the owners of flocks of sheep up to 200 in number. This new shear is built especially for the job sheep shearing. In view of the fact that it weighs only as much as a hand piece of a hand power or mechanical power machine, it is particularly easy to handle. Although designed especially for sheep shearing it takes care of the clipping job by changing the bottom plate. The electric motor which drives it is of 40 watts capacity and is adapted for 110 to 120-volt current. The illustration herewith shows the appliance in use.

Shearing with electric shear.

Lecturer: "If I should lead a jackass up to a pail of water and a pail of beer, which do you suppose he would drink?"

Soak: "Water."

Lecturer: "That's right—why?"

Soak: "Well, you said he was a jackass, didn't you?"

—*Rumely Magazine.*

Questions and Answers

Conducted by H. J. GALLAGHER
Agricultural Engineering Dept.
Michigan State College

Question: *"I have 3 wire 110-220 volt service to house and barn. 3 No. 8 wires go from house to barn, a distance of 120'. I desire some information on installing a 1 H.P. electric motor in the barn to run a milking machine.*

"(1) Will a 1 H.P. motor operate satisfactorily on a 110 volt circuit when the lights are on?

"(2) Can I get a 220 volt service to the motor by taking one wire from the cabinet and using the hot wire of the lighting circuit?

"(3) What is the best way to connect the motor to 220 volt service and what size wire should I use?"

Paul J. Doherty,
Route 1, West McHenry, Ill.

Answer: 1. It would be possible to operate a 1 H.P. motor on the same 110 volt circuit supplying lights providing the size of the wire was large enough to insure the full amount of current required for the lights and motor when operating at the same time. No. 14 wires would be too small.

2. The "hot" side of the lighting circuit could be used with a third wire from the distribution cabinet providing the third wire was taken from the opposite side of the service to give 220 volt service to the motor.

3. While either of the connections of answers 1 and 2 would work, neither are recommended. The best way to operate the motor is to establish a separate two wire 220 volt circuit from the distribution cabinet to the motor. On 220 volt service and for a distance the length of your barn, No. 14 wires are large enough.

Motors over ¼ H.P. should generally be connected on a circuit separate from the lighting circuit, preferably a 220 volt circuit.

Question: *"How many hours will a 100 watt lamp burn for one K.W.H.? Will a 50 watt burn ½ as much? How many H.P. motor can be used on a 2,300 voltage?"*

Fred Waddell,
Wevertown, New York.

Answer: A 100 watt lamp will burn ten hours to consume 1,000 watt hours which is one kilowatt hour. A 50 watt lamp will burn 20 hours to consume 1 kilowatt hour. A 100 watt lamp consumes twice the amount of energy as a

Amazing New Sheep Shear

Complete electric sheep-shearing machine, weighing no more than an ordinary shearing hand-piece. The only machine of its kind, designed from start to finish for shearing sheep and goats. Changing bottom plate makes it finest animal clipper

ELECTRIC
STEWART Shearmaster

Shears Sheep, Goats; Clips Cows, Horses, Mules, Dogs

Runs on any current or 6-volt battery, as specified. Perfect balance. Easy grip any position. Marvelous motor. Fully guaranteed by world's oldest established and largest makers of clipping and shearing machinery. At your dealer's or sent direct. $2 with order, balance C. O. D. Get catalog describing this and other models of world's greatest clipping and shearing machine line. Chicago Flexible Shaft Company, 5524 Roosevelt Rd., Chicago.

$25

with 20 feet of 3 lead rubber covered cord. Special voltages slightly higher. Specify your available current.

Satisfaction or Your Money Back

50 watt lamp during the same time period.

2,300 volt motors are strictly a power plant proposition. A voltage of 2,300 must be reduced by a transformer to 110-200 volts before it is available for farm use. However, the voltage whether it be 2,300 or only 32 is not the determining factor as to the number or size of motors that can be operated. The thing that counts is the amount of current available at the voltage on which the motor is built to operate, a 32 volt plant with a capacity of 750 watts will develop approximately 1 H.P., while a 32 volt 1,500 watt plant will develop twice the power of the smaller one. The number and size of farm motors on 110-220 volt single phase service is regulated by the capacity of the transformer and the size of the entrance service switch and not by the voltage.

In the case of 2,300 volt motors the size and number of the motors which may be used is determined by the capacity of the generator producing electric energy at 2,300 volts or the capacity of a sub station that has reduced a higher voltage to 2,300 volts.

Question: *Would like more in detail in regard to electrical brooder house hovers. Are electrical hovers satisfactory for turkeys, and will they heat a twelve foot brooder house that is the right room temperature? Turkeys are reared most successfully from* 100 *to* 125 *poults to the house. What size hover for this number of polts (turkeys being larger than chicks)?*

What would the size unit be or else how many K.W.H. would it use in a day (24 hrs.)? I assume an outside temperature of 45 *to* 50 *degrees.*

Would appreciate full information as there are not any in this vicinity to check up on. Note: Power from O. L. P.

F. C. Goodrich

Answer: Electric brooders have proved as satisfactory for poults as for chicks. A 12-ft. brooder house would accommodate about 150 poults. The house should be insulated to reduce heat losses as much as possible. A 52-in. canopy hover equipped with a reliable thermostat and a 500 watt heating element is recommended for 150 poults, as poults require more room than chicks. A temperature of 90° to 100° F. should be maintained the first week with a gradual temperature reduction as the poults develop and require less heat. With an outside temperature between 45° and 50° there should be no need for extra heat outside the hover.

The amount of current consumed per day would vary, more current being required the first week than the succeeding weeks. Approximately 100-150 K.W.H. would be consumed over a 40-day brooding period. Electric brooders filling these requirements are advertised in ELECTRICITY ON THE FARM.

Teacher: "What do you understand by the word 'deficit,' Johnny?"

Johnny: "It's what you've got when you haven't as much as you had when you had nothin'."

BESTOV
3-BRUSH
ELECTRIC BOTTLE WASHER
Washes inside and outside. Motor driven. Quiet. Smooth-running. Completely self-contained. Simple, positive operation. Very economical. Also made for belt drive and single brush model. Write for illustrated folder F-3216.
CHERRY-BURRELL CORPORATION
427 W. Randolph St., CHICAGO, ILL.

PAINT with ELECTRICITY
It is easier and cheaper with
Paint-o-Mister
Paint or varnish anything—spray disinfectants. Make money painting for neighbors. Agents and dealers wanted.
ATCO PRODUCTS CORP.
9 West Scott Ave., Rahway, N. J.
Write for circular

I AM ELECTRICITY

A Visualization of Farm Power as an Assistant to the Farmer and His Wife

By C. M. RIPLEY*

B. C. FORBES wrote in a newspaper seven years ago that "verily electricity is the many-handed servant of us all."

How well that remark made in 1924 fits in with the two pictures in this article.

You might say that electricity is a "Jack of *all* trades and master of *all*," or better still, "the servant of man in all walks of life."

Heretofore, electricity has been invisible, now you can imagine Handy Andy and his "sister" standing right by the electric outlet.

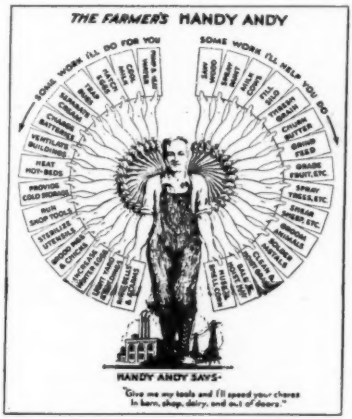
But so long as they only stand there, they will not work for you until you *provide the tools with which they work*. He cannot light your house, barn and farm with a lantern —no, he needs a new kind of tool, the electric lamp. She cannot sweep floors with a broom—no, she needs a new tool all her own, the vacuum sweeper. She cannot wash clothes with a scrub board—no, she needs an electric washer—a tool especially built for her use.

*General Electric, Schenectady.

If you give Handy Andy and Annie the tools which they require, they will save you time, and strength and money. No other power can do so many different kinds of work.

A windmill will pump water, but it won't cook your dinner or refrigerate.

Gas will make light, but it won't grab a radio program out of the air and operate a loudspeaker.


THE FARMER'S HANDY ANDY
SOME WORK I'LL DO FOR YOU
SOME WORK I'LL HELP YOU DO
HANDY ANDY SAYS-
"Give me my tools and I'll speed your chores in barn, shop, dairy, and out of doors."

A horse can pull loads, but it can't milk cows or sweep your floor.

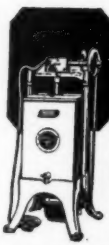
But electricity can do all these things and many more—and do them well, for electricity provides all three—heat, light and power.

● PAUL ●
WATER SYSTEMS

Provide Running Water at Low Cost

WRITE US

THE FT. WAYNE ENGINEERING & MANUFACTURING CO.
1722 N. Harrison St.,
FORT WAYNE, IND.



NEW WAY TO CHURN

Thousands are changing to this simple, convenient, modern way to churn. It's the famous DAZEY principle adapted to electrical operation. Ends the drudgery. Just turn the switch. Made in 2, 4, 6 and 10 gallon sizes. Write today for catalog and further information.

DAZEY CHURN AND MFG. CO., Dept. 27
Warne and Carter Avenues, ST. LOUIS, MO.

I hope you will study these pictures and view electricity —not as a mysterious force, but as a workman standing before the electric outlet, asking for his tools.

What is *behind* the outlet? The big power and light companies with their thundering waterfalls and their steam turbines that make the electricity; and the lofty transmission lines that stretch across the countryside, bringing this new service to you.

According to Arthur Brisbane, the inventions of Thomas Edison alone made employment for 800,000 people and the payroll of these people is $1,000,000,000 a year.

Most of Edison's inventions were electrical; so most of these 800,000 people are either making new tools for electricity to use, or are making kilowatt-hours or selling them or applying them to new tasks.

THE FARMWIFE'S HANDY ANNIE
SOME WORK I'LL DO FOR YOU
SOME WORK I'LL HELP YOU DO
HANDY ANNIE SAYS-
"Give me my tools then I'll speed your work
Early or late-I'll never shirk."

Compact, Small Tools

Think of the difference in the weight and size of a 1 HP. electric motor and a horse. The average 1 HP. motor is probably not over a foot in height.

And compare the small size of an electric wire with the size of a pipe conveying steam to do the same work.

Windmills average ½ HP. each. Many farms use 20 HP. and more. Imagine a farm with 40 windmills!

The power of a washing machine motor is equal to four husky women, and weighs much less than the four women!

The cost of electricity to operate a washing machine for one year averages $1.50. You could not feed the four husky women every Monday for $1.50 a year.

Electricity is the greatest servant for all mankind that the world has ever had.

Advice to the Sick

Once an old darky visited a doctor and was given definite instruction as to what he should do. Shaking his head he was about to leave when the doctor said: "Here, Rastus, you forgot to pay me."

"Pay you for what, boss?"

"For my advice," replied the doctor.

"No suh! I ain't gwine to take it," and Rastus shuffled out.

Cullman *Electric* PUMP DRIVE

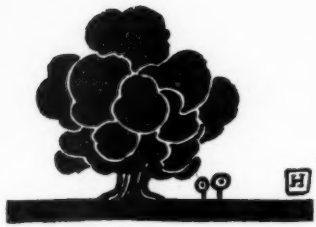
Costs less to operate. Quickly installed.

Write for descriptive folder

CULLMAN WHEEL CO.
1342 Altgeld St., Chicago, Ill.

Please Let Us Know

if you fail to find in our advertising pages any items that you are interested in. ELECTRICITY ON THE FARM stands ready to put you in touch with manufacturers of anything you may need, either now or in the future. 24 W. 40th St., New York, will reach us.



Under The CHESTNUT TREE

Selectivity

The doctor of a country village had two children, the prettiest little girls in the district. While they were out walking one day they happened to pass two small boys, one of whom was a visitor in the village.

Said the latter to his friend: "Who are those pretty little girls?"

The village boy replied: "They are the doctor's children. He always keeps the best ones for himself."

Forfeiting Freedom

"All men are born free and equal, but most of them spoil it by getting married."

Why Worry?

"Tommy," said the teacher, "what is one-fifth of three-seventeenths?"

"I don't know exactly," replied Tommy, "but it isn't enough to worry about."

Which reminds us of another one. The teacher was drilling her class in the principles of subtraction. "Now, if you subtract 25 from 35, what's the difference?"

"Yeah, that's what I say," answered one of her pupils. "I think it's the bunk, too."

Pampered

Keen Gardener: "What that little plant wants, Ethel, is plenty of air and sunshine."

Helpful Wife: "Well, Cyril, when we go for our holidays, couldn't we take it with us?"—Humorist.

Why Her Complexion

The man was something of a bore, anyway, so "selling him" was not such a regrettable discourtesy as it might have been under other circumstances.

He had asked her:

"How does it come that, with your parents and all your brothers and sisters blondes, you yourself are such a decided brunette?"

"Well, you see," she said confidentially, "I was born when our folks lived in a flat where babies were not allowed, so they had to keep me dark."

"Ain't Dat Sumpin'?"

The stork dropped 'round and left
Twins at the home of Sheck—
And he has gone and named
'Em, Sheck and Double Sheck!
Pathfinder

No Kick Coming

"Young man," said old Munnibaggs, "you are apparently making a dismal failure at supporting my daughter. I have supplied just about as much money for her during the first year of her marriage as I had ever supplied any previous year. The only thing you have done, I find, is to keep her in gloves."

"Well, did I ever ask you for anything but her hand?"

A Bird in the Hand

"Well," said the happy bridegroom to the minister at the conclusion of the ceremony, "how much do I owe you?"

"Oh, I leave that to you," was the reply. "You can better estimate the value of the service rendered."

"Suppose we postpone the settlement then—say a year. By that time I shall know what to give you."

"No, no," said the clergyman, a married man himself, "make it $5 now."

A Touching Appeal

A lady, soliciting for a charity fund, approached a Scotchman and handed him a card with the inscription:

"CHARITY FUND—GIVE TILL IT HURTS."

The Scotchman read it, then, with tears of grief in his eyes, handed it back to the fair solicitor.

"Lady," he said brokenly, "the verra idea hurts!"

A young lawyer was trying a case for a farmer.

The suit was for loss of twenty-four hogs and a railroad company was the defendant.

Plaintiff's attorney was waxing eloquent in an endeavor to impress the jury.

"Twenty-four hogs, gentlemen," he said, "just think! Twenty-four—twice the number there are in this jury box."

No More Bucket Brigade

Not to have to join in the "bucket-parade" to the bathroom each morning that the hydraulic ram refused to butt (three out of four), makes the electric motor pump in the basement my secret love and my favorite electric servant. Great luxurious streams of pure hot or cold water in nearly every room in the house to be had by turning a small knob. Just to stand under the hot shower ten minutes is worth four hours rest in bed. So I say, "Long live the KING, my ELECTRIC PUMP."

MRS. J. W. SIMMONS,
Box 187, Suffolk, Va.

Washer Heads the List

My electric servants are all so good and capable that it would, I think, be almost impossible to choose between them; in fact, I cannot help but give praise to each one that I own.

My washing machine seems to head the list, though, if there is any preference to be shown. What a labor-saver this machine is! How quickly and easily one gets by with that one day in the week—blue Monday. This drudgery has been cut at least 90 per cent, which leaves us housewives time for other duties that tend to make the home cheerful.

MRS. GEO. MARVIN,
610 S. Oak, Marshfield, Wis.

Pump and Softener

We are on a Northern Indian rural line and have several electrical servants. I wonder sometimes which is really the most help, the range, washer or pump, but after careful consideration I have decided on the pump. Every bit of water used for the stock and house must be pumped by it; we have a softener, and our water is pumped through here for our soft water. It is automatically controlled, so that when we want water in the bathroom or kitchen sinks we just turn the faucet and Paul Electric Pump does the rest.

MRS. GARTH, KYLER,
South Whitley, Ind.

Favors the Range

My white-enameled range is my favorite electrical tool for home-making, being my greatest labor-saver in caring for my large family and the best-looking thing in my house.

It's a stove I can keep clean all over, even the inside of the oven being removable to wash.

I cook with much less water, thus saving valuable food elements.

I just turn a knob to get cooking heat and I never have a blackened pan to scour. Best of all, my canning is done with much less work in the oven with automatically controlled heat.

MRS. E. H. WALWORTH,
R. R. 3, Decatur, Ill.

CLASSIFIED ADVERTISING

LYON IMPROVED BROODERS are proving under all climatic conditions the economy and greater value of electric brooding. Both Hover and Battery types. ELECTRIC ALARMS save time and money for the poultryman. Inexpensive Burglar, Power Off, Fire and Temperature Protection. HEATING and THERMOSTATIC SUPPLIES for Battery and Hover Brooders. Practical electric heating equipment for incubators. Send for Free Interesting Catalog, also book on Electric Brooding. LYON ELECTRIC COMPANY, Dept. E.F., 2075 Moore Street, San Diego, California.

IDEAL HAY HOIST operates Hay Carrier with 2 to 5 H.P. motor or engine. Saves extra team and driver all through busy haying season. 10 DAYS FREE TRIAL. Write for circular 202. UNIVERSAL HOIST & MFG. CO., CEDAR FALLS, IOWA.

SWEET POTATO PLANTS FOR SALE. The best Georgia produces. Big stem Jersey, Porto Rico and other varieties. Be sure to plant a patch of potatoes this year. You will be pleased with the quality of these plants. Write for prices, stating the number of plants wanted. DAVID NICHOLS CO., Kingston, Georgia.

Cash Prizes Awarded

First Prize for March—$25.00

**"The task left undone in the rush of the day,
Is easily finished the electrical way."**

MRS. BEN. T. BURROWS, R. 1, Reynolds, Ill.

The following have been awarded $5.00 cash prizes for their March titles.

"Using electricity for power and light, He grinds the sickle after chores at night."—E. C. Savre, R. 4, Glenwood, Minn.

●

"No trip to town, no loss of time; Just snap the switch and start to grind."—A. L. Coffman, Phoenixville, Penna.

●

"Day for field work on the farm, Night for electric grinding in the barn."—Mrs. F. S. Sawyer, Godfrey, Illinois.

●

"Grinding at night the electrical way, Ready for mowing during the day."—Rebecca R. Wright, Granville, Mass.

●

"The farmer who prospers today, Has a tool shop run the electrical way."—W. H. Brinton, Glen Rose, Penna.

Front Cover Picture
March Issue

Rules for May Contest

There will be one first prize of $25.00 and five second prizes of $5.00 each. In case of a tie each winning contestant will receive the full cash prize to which he or she is entitled.

All members of the farm family to whom this magazine was sent are eligible. Each contestant may submit only one title.

Send your title on the coupon below or on a plain sheet of paper making out a similar form.

Question "A" must be answered correctly.

Entries must be sent to the Title Editor, ELECTRICITY ON THE FARM, 24 West 40th Street, New York, before June 1st.

Winning names and titles will be announced in the July issue.

My title for the May Front Cover Picture of ELECTRICITY ON THE FARM is.....

.....

.....

.....

.....

(a) How often do you change the tubes in your radio?.....

Why do you change them?.....

My name is .....R. F D.....

Post Office ..... County..... State.....

An ELECTRIC REFRIGERATOR PAYS ITS WAY!

ARE you trying to keep milk, butter, eggs, and other farm produce *fresh* without proper refrigeration? If so, you can figure for yourself the cost of spoilage in a single year!

An electric refrigerator will start to pay you a profit the day it is delivered. It will eliminate waste. It will help you to get a higher price for your produce on the market. You can save left-overs every day and reduce the cost of meats by buying in larger quantities. On a farm, more than anywhere else, you need electric refrigeration. Write our Rural Service Department today for full information.

NORTHERN INDIANA PUBLIC SERVICE COMPANY

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